

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for implementing a system information broadcasting function in an asynchronous mobile communication system, comprising the steps of:

(a) storing ~~RSIMs~~(~~Radio~~ Radio resource controller System Information Messages) Messages (RSIMs) generated by information block segments from a radio network controller in a memory;

(b) calculating transmission time points of the RSIMs to the air;

(c) queuing the stored RSIMs in an order of transmission based on the calculated transmission time points with reference to ~~the~~ a current time point;

(d) comparing the current time point with the transmission time point of the RSIM to be transmitted ~~the~~ earliest in the queued RSIMs at ~~every~~ every preset time interval intervals; and
and[[,]]

(e) transmitting the RSIMs to the air if the current time point and the transmission time point of the RSIM are the same as a result of the comparison.

2. (Canceled)

3. (Original) A method as claimed in claim 1, wherein the memory is a channel card.

4. (Currently Amended) A method for implementing a system information broadcasting function in an asynchronous mobile communication system, comprising the steps of:

(a) receiving a system information renewal message from a radio network controller, and storing ~~all~~ Radio Resource Controller System Information Messages (RSIMs) generated by information block segments and scheduling parameters contained in the message;

(b) calculating transmission time points of the RSIMs to the air, and forming a queue of the RSIMs based on the calculated transmission time points of the ~~all~~ RSIMs according to a set queuing algorithm;

(c) selecting a first element from the queue of the RSIMs at fixed time intervals;
and[[,]]

(d) transmitting the RSIM to the air when the transmission time point of the RSIM, the selected first element, is the same ~~with~~ as the current time point.

5. (Currently Amended) A method as claimed in claim 4, further comprising the steps of:

whenever one RSIM is transmitted to the air at one of the fixed time intervals,
calculating a next transmission time point of the transmitted RSIM; and,

forming a new queue of RSIMs ~~taking~~ based on the next transmission time point.

6. (Currently Amended) A method as claimed in claim 4, wherein the next transmission time point SFN_{tx} of the RSIM is calculated according to the following ~~algorithm~~algorithm:

$$\text{SFN}_{\text{tx}}(i+1) = \text{SFN}_{\text{tx}}(i) + \text{SEG_POS} \% 4096 \quad \text{SFN}_{\text{tx}}(i+1) = (\text{SFN}_{\text{tx}}(i) + \text{IB_REP}) \% 4096 \quad (0 \leq i \leq M-1)$$

Where, 'i' denotes (I)th SFN_{tx}, and 'M' denotes a greatest value that satisfies ~~IB-REP*n < 4096~~IB_REP*n < 4096.

7. (Canceled)

8. (Original) A method as claimed in claim 4, wherein the memory is a channel card.

9. (Currently Amended) A method as claimed in claim 4, wherein the transmission time point of the RSIMs is calculated according to the following ~~algorithm~~algorithm:

tempSFN_{tx} = Round (modify_time % IB_REP) * IB_REP + SEG_POS

if tempSFN_{tx} ≤ modify_time

then tempSFN_{tx} = tempSFN_{tx} + IB_REP

SFN_{tx} = tempSFN_{tx} % 4096

Where, the transmission time point value SFN_{tx} is calculated with reference to the modify_time, and represents a transmission time point each of the RSIMs is to be transmitted to

the air, and the modify_time is information contained in the system information renewal message from the a mobile switching center, and represents a time point at which transmission of the RSIMs contained in the message to the air is initiated according to given parameters.

10. (Original) A method as claimed in claim 4, wherein each of the elements of the queue of the RSIMs has a transmission time point calculated according to scheduling parameters of the RSIMs the element indicates.

11. (Currently Amended) A method as claimed in claim 10, wherein the parameters ~~include~~include:

~~an SIB_REP-IB_REP~~ representing intervals the system information blocks are transmitted to the air, and

~~SIB_POS-SEG_POS~~ representing a location of each system information block segment within a transmission period.

12. (Original) A method as claimed in claim 4, wherein each of the elements of the queue of the RSIMs includes an address of the RSIM, and a transmission time point of the RSIM.

13. (Currently Amended) An asynchronous mobile communication system comprising:

a first signal processing part for processing a system update message received from a radio network controller;

a memory for storing Radio Resource Controller System Information Messages (RSIMs) generated by information block segments and scheduling parameters contained in the processed message;

a control part for calculating transmission time points of the RSIMs to the air in advance, and forming a queue of the stored RSIMs in an order ~~of~~ from the earliest transmission to the air based on the calculated transmission time ~~point~~ points;

a comparing part for comparing the current time point to the transmission time point of the RSIM to be transmitted at the earliest among the queue of the RSIMs at preset intervals under the control of a control signal; and[[,]]

a second signal processing part for processing the RSIM to be transmitted to the air according to a result of the comparison.

14. (Currently Amended) An asynchronous mobile communication system as claimed in claim 13, wherein[[,]] whenever one RSIM is transmitted at fixed intervals, the control part calculates the next transmission time point of the transmitted RSIM, and forms a new queue of the RSIMs again by using a set queuing algorithm.

15. (Currently Amended) An asynchronous mobile communication system as claimed in claim 14, wherein[[,]] when the next transmission time point of the transmitted RSIM is

calculated, the control part inserts the next transmission time point in place of the prior transmission time point in the queue of the RSIM.

16. (Currently Amended) An asynchronous mobile communication system as claimed in claim 13, wherein the scheduling parameters stored in the memory ~~includes~~, include:

a parameter IB_REP for representing intervals the information block segments are transmitted to the air, and

a parameter SEG_POS for representing positions of the information block segments.

17. (Original) An asynchronous mobile communication system as claimed in claim 13, wherein the queue of the RSIMs includes addresses of the RSIMs, and the transmission time points of the RSIMs.